# MAS BULLETIN

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## Papers presented at Advisory Group for Aerospace Research and Development (AGARD) Symposium on Aircraft Ship Operations

Background. The 78th Symposium on the Flight Mechanics Panel of AGARD met in Seville, Spain, 20-23 May 1991. This symposium considered the problems of mutual interest connected with fixed and rotary wing aircraft operations from ships, and the application of new technology to enhance such operations. The symposium reviewed the current problems and future progress in:

- The ship environment in terms of wind, temperature, precipitation, turbulence and deck motion;
- Guidance, controls and displays, primarily in the approach and landing phase;
- Flight test and simulation techniques;
- Launch, recovery and handling system developments;
- Operational/pilot views;
- Future developments.

Copies of the following papers are obtainable through the Office of Naval Research European Office:

1. **Fixed Wing/Carrier Operations Perspective**
   RADM P.W. Parcells, Tactical Wings U.S. Atlantic Fleet, United States (U.S.)
2. **Helicopter/VSTOL/Ship Operations Perspective**
   Representative from the Ministry of Defence, United Kingdom (U.K.)
3. **Deck Motion Criteria for Carrier Aircraft Operations**
   J.H. Pattison, NAVSEASYSCOM, and R.R. Bushway, NAVAIRSYSCOM, U.S.
4. **Aerodynamics of Ship Superstructures**
   J.V. Healey, Navy Postgraduate School, U.S.
5. **Ship Airwake Measurement and Modeling Options for Rotorcraft Applications**
   D. Carico and B. Reddy, NATC, & C. Dimarzio, Northeastern University, U.S.
6. **Measurement of the Flow Distribution over the Flight Deck of an Aircraft Carrier**
   M. Mulero and F.G. Portabella, Spain (SP)
7. **Ship Motion Prediction and Its Utilization as a Landing Timing Aid**
   S.H. Mikhail, Indal Technologies, Canada, CA
8. **Enhanced Displays, Flight Controls and Guidance Systems for Approach and Landing**
   R.W. Huff and G.K. Kessler, NAVAIRTESTCEN, U.S.
9. **MIL-H-8501B: Application to Shipboard Terminal Operations**
   J. Johns and A. Cappetta, NADC, U.S.
10. **Intégration du Pilotage et des Systèmes d'Aide à l'Appontage pour les Opérations Embarquées (Integration of Flight and Landing Aid Systems for Shipboard Operations)**
    B. Dang Vu and P. Costes, ONERA, France (FR)
11. **Guidage automatique lors de l'appontage par traitement d'image embarqué (Automated Deck-Landing Guidance using Airborne Image Processing)**
    M.Y. Le Guilloux, SAGEM, FR
12. **Approach and Landing Guidance**
    A.J. Smith and E.J. Guiver, RAE, U.K.
13. **Analytical Modeling of SH-2F Helicopter Shipboard Operation**
    Fu-Shang Wei, Kaman Aerospace Corporation, U.S.
14. **Helicopter/Ship Analytic Dynamic Interface**
    D. Church, B. Ferrier, H. Polvi, and F. Thibodeau, CA
15. **Evaluating Fixed Wing Aircraft in the Aircraft Carrier Environment**
    C.P. Senn, NATC, U.S.
16. **EH-101: Ship Interface Trials, Flight Test Programme and Preliminary Results**
    R. Longobardi and B. Paggi, Agusta, Italy
17. **Helicopter/Ship Qualification Testing**
    R. Fang, NLR, the Netherlands, NE
18. **United Kingdom Approach to Deriving Military Ship Helicopter Operating Limits**
    B.A. Finlay, A & AEE, Boscombe Down, U.K.
19. **A Review of Australian Activity on Modeling the Helicopter/Ship Dynamic Interface**
    A.M. Arney, J. Blackwell, L.P. Erm, and N.E. Gilbert, Australia
20. **United States Navy Ski Jump Test Experience and Future Applications**
    C.P. Senn and T.C. Lea III, NATC; J.W. Clark, Jr., NAVAIRDEVCEN, U.S.
21. **Launch, Research and Handling Systems for Vertical Take-off and Landing Unmanned Aircraft - Operating from Small Ships**
    S.H. Mikhail, Indal Technologies, CA
22. **Modélisation Dynamique de l'Avion sur ses Atterrisseurs et Validation par Franchissement d'un Dièdre (Modelling of Landing Gear During Catapult Phase)**
    M.D. Fleygnac and E. Bourdais, Dassault Aviation, FR
23. **Some Implications of Advanced STOVL Operations from Invincible Class Ships**
    K. Ainscow and P. Knott, British Aerospace, U.K.
24. **Fixed-Wing Night Carrier Aero-Medical Considerations**
    J.C. Antonio, Air Development Squadron Five, U.S.
25. **Environmental Limitations in Aircraft/Ship Operations**
    D. Falcinelli, IT
26. **Aircraft Options for a Revolution at Sea: 2030**
    J.C. Biggers, ARC Professional Services; P.A. Silvia, David Taylor Research Center, U.S.

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